

**Title:** CVD of CrO<sub>2</sub> thin films: Influence of the deposition parameters on their structural and magnetic properties

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**Abstract:** This work reports on the synthesis of CrO<sub>2</sub> thin films by atmospheric pressure CVD using chromium trioxide (CrO<sub>3</sub>) and oxygen. Highly oriented (100) CrO<sub>2</sub> films containing highly oriented (0001) Cr<sub>2</sub>O<sub>3</sub> were grown onto Al<sub>2</sub>O<sub>3</sub>(0001) substrates. Films display a sharp magnetic transition at 375 K and a saturation magnetization of 1.92  $\mu$ (B)/f.u., close to the bulk value of 2  $\mu$ (B)/f.u. for the CrO<sub>2</sub>.

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